I.S

ON-SCENE COORDINATOR'S REPORT 4/8/91
CERCLA REMOVAL ACTION
I.J. RECYCLING, CLINTON STREET
FORT WAYNE, INDIANA
SITE ID# Q7

DELIVERY ORDER NO. 7360-05-001
REMOVAL DATES:* PHASE I: NOVEMBER 3, 1986 - DECEMBER 1, 1986
PHASE II: OCTOBER 19, 1987 - MARCH 26, 1988
PHASE III: JUNE 22, 1988 - NOVEMBER 2, 1988
PHASE IV (R.P. ACTION): NOVEMBER 23, 1988 - AUGUST 03, 1989

EMERGENCY AND ENFORCEMENT RESPONSE BRANCH
OFFICE OF SUPERFUND
WASTE MANAGEMENT DIVISION
REGION V
UNITES STATES ENVIRONMENTAL PROTECTION AGENCY
230 SOUTH DEARBORN STREET
CHICAGO, ILLINOIS

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION V

DATE: APR 2 5 1991

SUBJECT: ON-SCENE COORDINATOR'S REPORT - REMOVAL ACTION AT I.J. RECYCLING SITE, CLINTON STREET, FORT WAYNE, INDIANA (Site ID #Q7)

FROM: Robert J. Bowden, Chief
Emergency and Enforcement Response Branch, 5HS-12

TO: Stephen D. Luftig, Director
Emergency Response Division, OS-210

Attached please find the On-Scene Coordinator's Report for the removal action conducted at the I.J. Recycling site located on Clinton Street in Fort Wayne, Indiana. The report follows the format outlined in the National Contingency Plan (NCP) and meets the criteria established in Section 300.165. This U.S. EPA removal was action began on November 3, 1986 and three phases later it was completed on November 2, 1988. A fourth phase, a Responsible Party cleanup was completed on August 3, 1989. Please note that these phases refer to field mobilization/demobilization dates and differ from those dates listed in the CERCLIS database.

The site posed an immediate threat to human health and the environment. The action was taken to mitigate threats posed by:

a) Potential exposure of hazardous substances by people, animals or food chain;
b) Potential contamination of drinking water or other sensitive ecosystems;
c) Hazardous substances in drums and tanks that may pose a threat of release; and
d) Threat of fire or explosion.

Costs under the control of the On-Scene Coordinator totaled $3,033,928.99, of which $2,578,924.04 were for the Emergency Response Cleanup Services (ERCS) contractor.

Any indication in this OSC report of specific costs incurred at the site is only an approximation, subject to audit and final definitization by the U.S. EPA. The OSC Report is not a final reconciliation of costs associated with a particular site.

Portions of the OSC Report appendices may contain confidential business or enforcement-sensitive information and must be reviewed by the Office of Regional Counsel prior to release to the public.

This site is not on the National Priorities List. The OSC for this removal action was Kenneth Theisen.

Attachment

cc: J. Strecker, Indiana Department of Environmental Management, w/OSC Report
T. Johnson, U.S. EPA ERD, OS-210, w/OSC Report

EXECUTIVE SUMMARY

On November 3, 1986, the United States Environmental Protection Agency (U.S. EPA) began a four-phased removal action at the I.J. Recycling facility located at 3651 North Clinton Street, Fort Wayne, Indiana. The removal action was taken to mitigate threats posed by the contents of over 3,000 drums of various and unknown hazardous materials, many of which were stored in leaking containers. In addition, approximately 400,000 gallons of unknown hazardous liquids were stored in 64 above and below ground storage tanks. Hazardous materials found on site included: polychlorinated biphenyls (PCBs), toluene diisocyanate (TDI), various acids and bases, and highly chlorinated volatile organic compounds.

The hazardous material stored in drums and tanks posed a threat through direct contact, fire, explosion, and potential contamination of drinking water and sensitive ecosystems. The facility had a history of hazardous substance releases.

The primary objective of Phase I was to stabilize the site. This was done by characterizing, overpacking, and segregating similar compounds in a secured and heated building on site. Phase II involved the sampling, transportation, and disposal of the 3,000 drums. Phase III consisted of the same for the 400,000 gallons of bulked liquid material. Phase IV consisted of the oversight of Potentially Responsible Party (PRP) action involving the removal of sludge from the tanks, disposal, tank and building decontamination, soil sampling and removal, and ground water investigation.

The fund-lead removal was completed by the Emergency Response Cleanup Services (ERCS) contractor on November 2, 1988, with the PRP action (Phase IV) being completed on August 3, 1989. Both the ERCS and the PRP cleanups will be discussed in this report. Costs under the control of the OSC totaled approximately $3,033,928.99, of which $2,578,924.04 were for the ERCS cleanup contractor. The On-Scene Coordinator for the entire project from the site investigation through Phase IV was Kenneth Theisen.

Kenneth T Theisen 4-10-91

KENNETH THEISEN — DATE
ON-SCENE COORDINATOR

OSC REPORT
I.J. RECYCLING, CLINTON STREET, IN
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I.J. RECYCLING
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* Portions of these OSC Report Appendices may contain confidential business or enforcement-sensitive information and must be reviewed by the Office of Regional Counsel prior to release to the public.

1.0 SUMMARY OF EVENTS

1.1 Location

The Indiana Jones Recycling (I.J.) site is located at 3651 North Clinton Street in Fort Wayne, Indiana (Figure 1). The site covers approximately 4.5 acres and is situated in a predominantly commercial and residential area. The site is bordered on the southwest by Ernest Court, on the southeast by a parking lot adjacent to several small businesses, on the north by retail businesses including the large Glenbrook shopping mall, and on the west by a residence (Figure 2). Four buildings are located on the site (Figures 3-5). Building A is a two story structure with a basement which contained 39 tanks of various sizes and the offices of I.J. Recycling (Figures 3 and 4). Building B is a one-story structure which contained 11 tanks (Figure 5). Building C is a one-story structure used for storage of drums.

The St. Joseph River lies approximately 1/4 mile southeast of the site and receives storm water via sewers and surface run-off from the I.J. site. The St. Joseph River is Fort Wayne's main water supply.

The topography of the I.J. site slopes southeast toward the St. Joseph River and is covered with cement, gravel, and vegetation. The general geology of the area consists of a layer of glacial till on top of a limestone bedrock sloping towards the St. Joseph River.

1.2 Site History

The facility, formerly known as Hanchar Industrial Waste Management and Continental Waste Systems, began operations in 1980 as a waste recovery and reclamation facility, handling waste oils and solvents along with various other hazardous wastes. Its treatment methods included oil/water separation, acid/base neutralization, distillation, and others.

In connection with a proposed sale of the facility, the United States Environmental Protection Agency (U.S. EPA) was asked by the Small Business Administration, who had a financial interest in the property, to conduct a site assessment following an inventory of the facility by Pollution Control Systems in January 1985. This was to determine if there was any risk to the health or environment before approval of the sale. The U.S. EPA and its Technical Assistance Team (TAT), conducted the inspection on February 25, 1985, and made various recommendations including activating the sprinkler system, security, and daily inspections looking for leaking drums and unsafe conditions among the many drums stored at the facility.

The U.S. EPA again became involved at this facility on January 3, 1986, when it investigated an organic solvent spill, which occurred on December 24, 1985. The facility owner, now I.J. Recycling, had a ceiling collapse and shear off a valve on a 10,000-gallon tank containing highly chlorinated hazardous ink solvents. Five to 6 thousand gallons of material were spilled and approximately 1,500 gallons entered the storm sewer system.

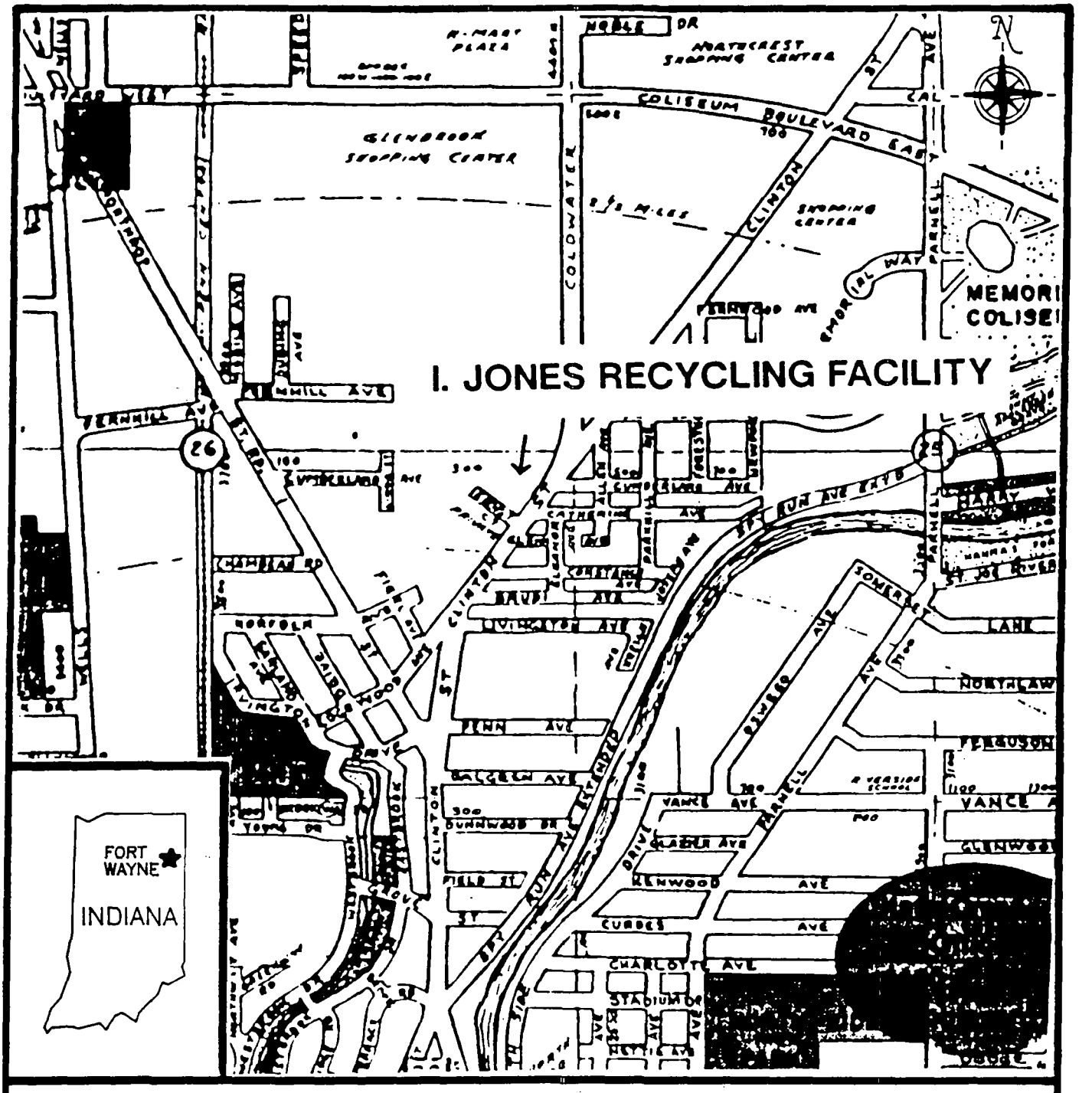

FIGURE 1

SITE LOCATION MAP

I. JONES RECYCLING FACILITY

FORT WAYNE, INDIANA

NOT TO SCALE

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Region 5

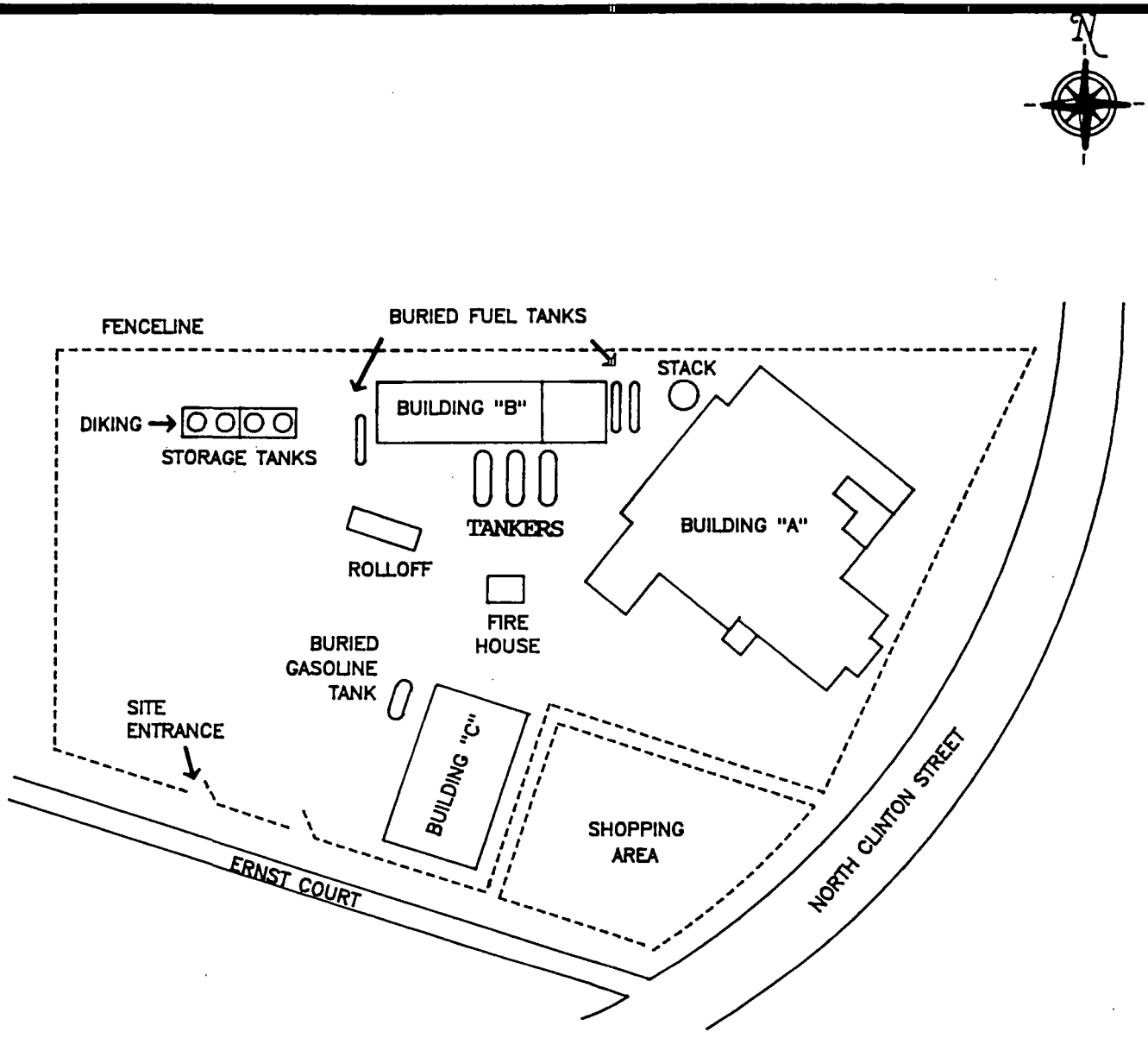

FIGURE 2

SITE MAP

I. JONES RECYCLING FACILITY

FORT WAYNE, INDIANA

NOT TO SCALE

UNITED STATES · ENVIRONMENTAL PROTECTION AGENCY

Region 5

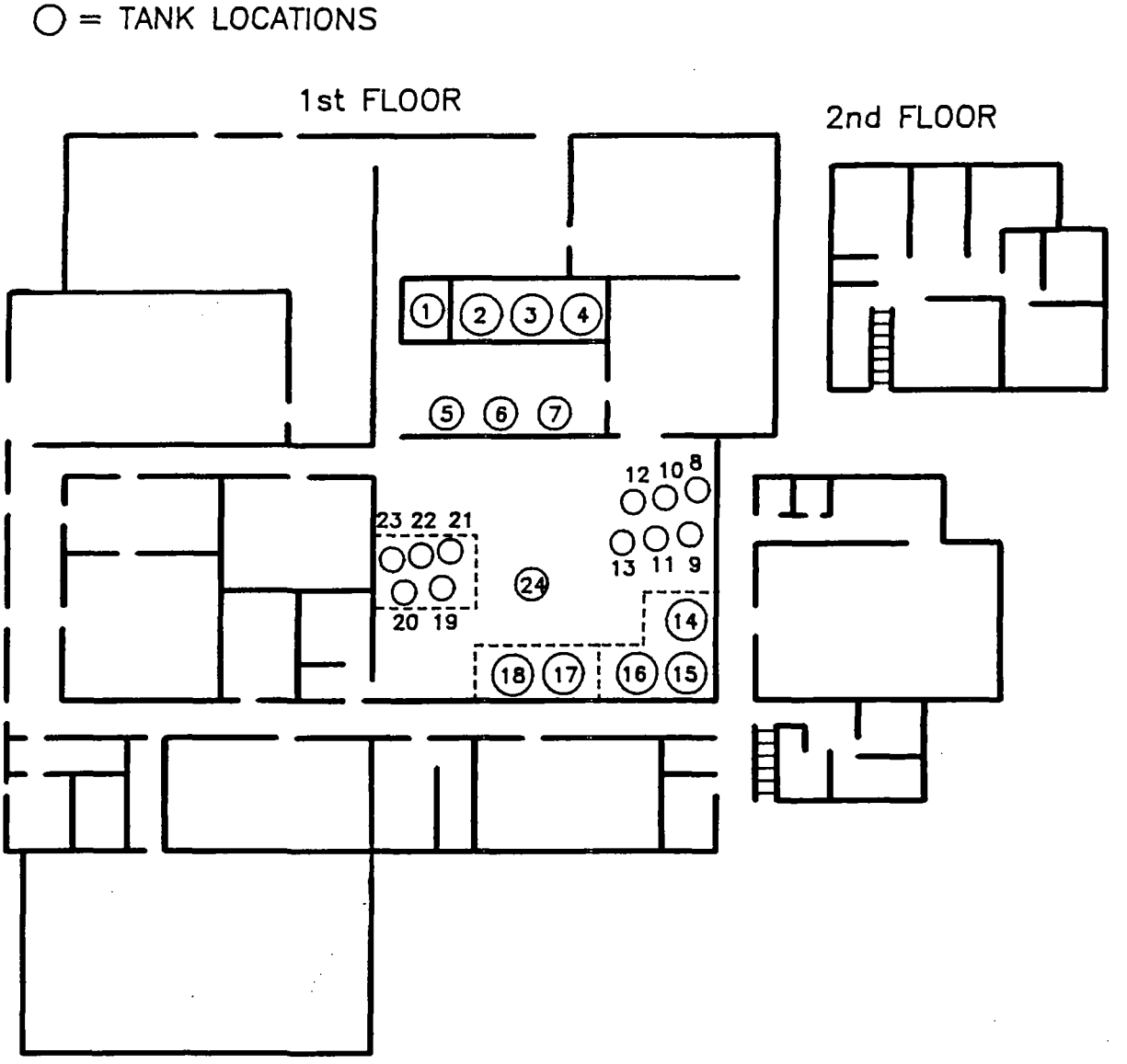

FIGURE 3

BUILDING "A"
FIRST AND SECOND FLOORS

I. JONES RECYCLING FACILITY
FORT WAYNE, INDIANA

NOT TO SCALE

UNITED STATES · ENVIRONMENTAL PROTECTION AGENCY

Region 5

○ = TANK LOCATIONS

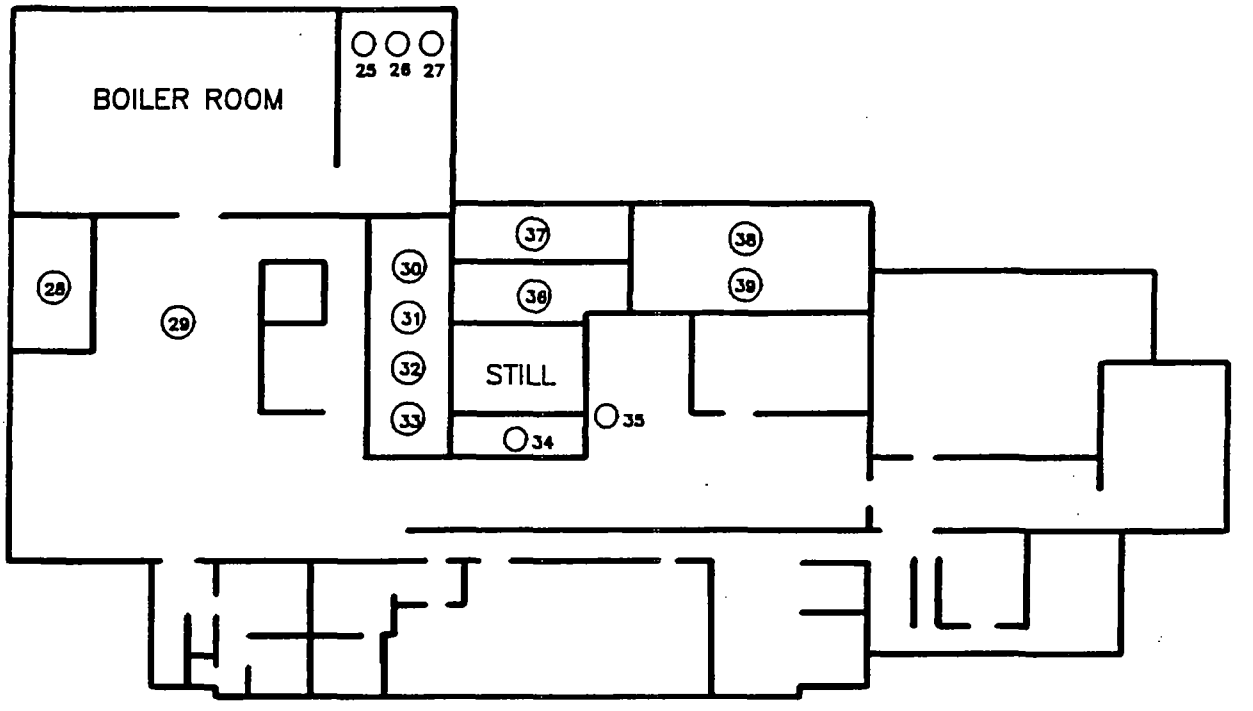

FIGURE 4

BUILDING "A" BASEMENT

I. JONES RECYCLING FACILITY

FORT WAYNE, INDIANA

NOT TO SCALE

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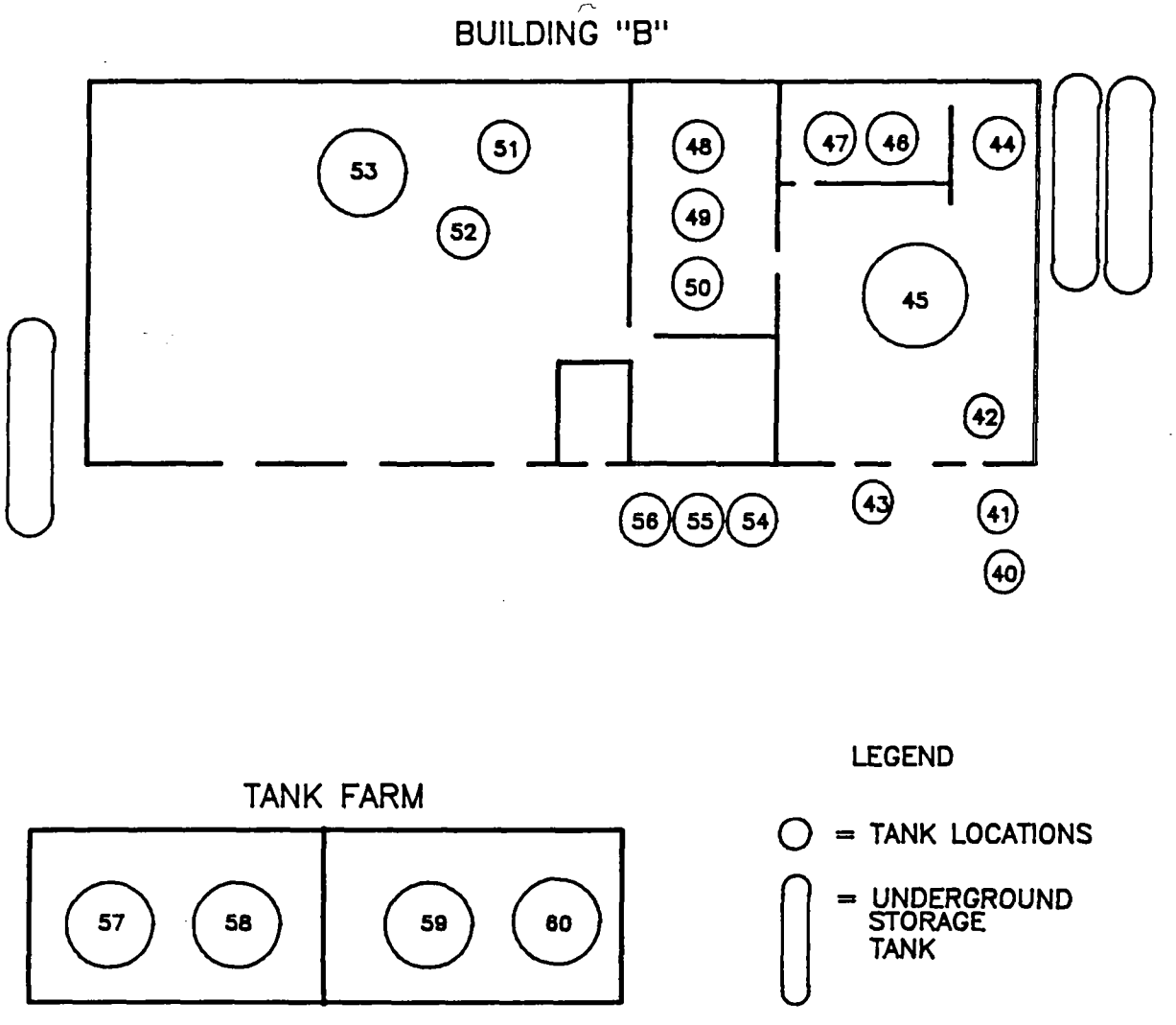

FIGURE 5

BUILDING "B" AND TANK FARM

I. JONES RECYCLING FACILITY

FORT WAYNE, INDIANA

NOT TO SCALE

UNITED STATES · ENVIRONMENTAL PROTECTION AGENCY

Region 5

I.J. Recycling contracted Pollution Control System to clean up the spill. Delays and financial problems between I.J. Recycling and Pollution Control Systems eventually allowed some of the material to enter the St. Joseph River.

The State of Indiana obtained an Agreed Entry of a Preliminary Injunction for I.J. Recycling on March 22, 1986. This order generally prevented them from accepting any additional hazardous material until they lowered their existing inventory. The State did allow I.J. Recycling to continue to accept waste oils for processing in order to generate a cash flow.

On September 9, 1986, a chemical fire broke out in a room of building A. The local fire department and Hazardous Materials Response Team responded and extinguished the blaze before it narrowly missed igniting approximately 525 drums of hazardous materials in an adjoining room. The City then asked for and was granted a temporary restraining order against I.J. Recycling, shutting down the facility. The mayor of Fort Wayne, citing the lack of progress in the facility reducing its inventory of hazardous material, the declining condition of the facility, and the recent history of worsening incidents, requested another inspection by U.S. EPA.

1.2.1 SITE INSPECTION

On September 23, 1986, the U.S. EPA's Emergency and Enforcement Response Branch (EERB) On-Scene Coordinator Ken Theisen conducted a site inspection accompanied by the fire chief, mayor, and a member of the city's Hazardous Materials Response Team. It was evident that the facility was not kept in good operating condition. Leaking roofs caused standing water in several locations. The basement of building A contained much standing water, presumably from the fire fighting effort. Many broken windows were in evidence, adding to the water problem. The fire chief pointed out numerous violations of city electrical codes. Damaged PVC piping was noted in several locations. Although the majority of the 2,700 drums on the site were in good condition, a considerable number of leaking drums were observed. Some were being contained by the usage of an absorbent. General housekeeping throughout the facility was poor. Drums were found in almost every room and hallway of the facility. Debris from the spill in December of 1985 was piled in one of the buildings. Air monitoring detected elevated levels of organic vapors adjacent to the debris. The three tankers on site partially full of sludges and waste posed an additional problem; one had developed numerous leaks and had been emptied by the fire department into drums. Although they were parked in a diked area, their contents and the inadequate capacity of the diked area constituted a potential spill problem. Many of the drums had conflicting labels, numbers, and symbols. As reported by the State, many drums were passed from owner to owner, each with a different marking system. Serious doubts existed as to their correct segregation.

Although the facility may have made some progress in treating and disposing of some of the drums and bulk storage, the overall number of drums on the site is about the same as when I.J. Recycling bought the facility. It is apparent that the facility had lost its ability to manage, treat, and dispose of the hazardous materials in the vast number of drums and bulk storage containers found on the site.

1.3 Threats to Public Health and the Environment

The I. J. Recycling facility was found to pose the following actual or potential threats to human health and the environment and delineated within section 300.65(b)(2) of the National Contingency Plan then in effect.

a. Potential exposure of hazardous substances by populations, animals or food chain:

The site investigation revealed that the contents and conditions of the numerous drums and storage tanks posed a significant threat to the nearby population. The potential for incompatible material being combined and resulting in a chemical fire or violent chemical reaction exist. The resulting fire or reactions could emit potentially hazardous material into the air. The facility's close proximity to nearby residences, commercial and industrial facilities substantiated this threat.

b. Potential contamination of drinking water or other sensitive ecosystems:

The January 1986 release of solvents which reached the St. Joseph River via a storm sewer, documents the threat posed by the contaminants on this site. Additional releases originating or flowing through this site could potentially adversely impact the quality of the river water thereby affecting the City of Fort Wayne's water supply. Past and present housekeeping practices together with recent spills could potentially threaten the underlying aquifer.

c. Hazardous substances in drums and tanks that posed a threat of release:

The contents of each drum and tank indicated various acids, bases and organics. Also, the nature of the facility and the discernable markings and shipping labels on the drums suggested that the contents were of a hazardous nature.

d. Weather conditions that may cause hazardous substances to be released:

Since the facility is located where winter brings freezing temperatures, and since the majority of the stored material is liquid having a high water content, freezing temperatures could threaten the structural integrity of the various containers.

e. Threat of fire or explosion:

The most imminent threat posed by this site was the possibility of fire or explosion. Due to the flammable nature of organics, such a threat is heightened by the amount of organic and other flammable

or incompatible materials on site. The recent chemical fire which broke out in building A and other such incidents throughout the years document such a threat. In a fire, the toluene diisocyanate (TDI) found on the site could produce a toxic gas and pose a threat to the predominantly commercial and residential area. TDI is also reactive with water, forming an organic base and carbon dioxide gas.

1.4 Attempts to Obtain a Response from Potentially Responsible Parties

1.4.1 First Unilateral Order

On October 14, 1986, the EERB issued a Section 106 Unilateral Order to the owners and operators ordering them to undertake a stabilization and clean-up at the Clinton Street facility. In particular, that Order required the owners/operators to remove debris; provide security; stabilize, remove and dispose of all waste oils in Building C; characterize, overpack, and stage all drummed waste; check the structural integrity or all tanks; and remove and address the contents of any tanks showing structural failure.

The work plan that was submitted on October 27, 1986 was woefully lacking in all aspects and was rejected on October 31, 1986.

OSC Kenneth Theisen mobilized the ERCS contractor on November 3, 1986 to do the above work. During this time period the OSC arranged for the photo-coping of over 30,000 pages of files from the office at the facility, for later enforcement-related activities. This Phase (I) was completed on December 1, 1986.

1.4.2 Second Unilateral Order

On September 3, 1987 another 106 Unilateral Order was issued to the owners and operators regarding the disposal of all hazardous materials stored on site. In particular, the Order required the owner/operators to remove debris; provide security; dispose of all drummed wastes; dispose of all wastes in tanks; dispose of all wastes in tankers and roll-off boxes; drain all piping and dispose of discarded materials; clean or dispose of contaminated soils; remove and dispose of underground tanks; and sample creek sediments. The PRPs refused to comply with this Order.

When the owner/operators refused to comply with the Order, OSC Kenneth Theisen decided to began performing the above work in two stages; first, to remove and dispose of all drummed wastes; and second to remove and dispose of all liquid wastes in tanks. It was contemplated that U.S. EPA might pursue enforcement action against waste generators, as well as the owner/operators, to perform the remainder of the work in the second Unilateral Order, and any other necessary removal work. At that time, U.S. EPA was continuing to analyze site records to identify generators who sent hazardous substances to the facility.

OSC Kenneth Theisen mobilized the ERCS contractor on October 19, 1987 to start the sampling prior to disposal of the contents of the 3,000 drums. This effort, Phase II, was completed on March 26, 1987.

On June 22, 1988 OSC Theisen again mobilized the ERCS contractor to properly dispose of the approximate 400,000 gallons of bulked hazardous liquids found on site (Phase III). This task was completed on November 2, 1988.

1.4.3 Third Unilateral Order/PRP Cleanup

On July 27, 1988 a third 106 Unilateral Order was sent out, this time to past and present owners/operators and to the 300 generators and transporters identified from documents copied during Phase I. This order involved the hazardous sludge removal, soil and sediment sampling and removal, tank and building decontamination, removal of tankers and roll-offs, disposal of liquids drained from pipes, provision of security, removal of underground tanks, and ground water investigation.

Approximately 125 generators formed the "Clinton Street Group" and hired a firm named "de maximis" as the project oversight contractor. Perland Environmental was then selected as the cleanup contractor. A work plan was submitted to the U.S. EPA in September of 1988 and officially approved, after revisions, by the U.S. EPA on November 23, 1988. The Clinton Street Group took control of the site on that date. The Clinton Street Group completed Phase IV on August 3, 1989.

U.S. EPA proceeded to develop a de minimis settlement proposal, which was offered on March 20, 1989, to all generators whose volumetric contribution of waste to the site was less than 0.45%. There were 139 eligible generator PRPs (including 74 who had been members of the Clinton Street Group) who accepted U.S. EPA's de minimis settlement. These settlers paid a total of $1,888,326.05 toward U.S. EPA's response costs and the non-Clinton Street settlers an additional $283,712.69 as settlement of potential liability for penalties for failure to comply with the third Unilateral Order. In supplemental settlements, other de minimis parties agreed to pay an additional $167,765.31 in response costs and $48,049.57 in settlement of potential penalty liability.

1.5 Actions Taken

1.5.1 Phase I

On October 14, 1986 an Action Memorandum was signed by the Regional Administrator authorizing the initiation of stabilization efforts at the I.J. Recycling facility. The Action Memorandum authorized expenditure of up to $393,900. Initial site work started on November 3, 1986 and included taking an inventory of all drums and performing a "haz cat" scan to determine basic chemistry. All drums were removed from the various rooms, hallways, basements and buildings, and temporarily staged outside, until secure storage on site could be made ready. At this time 200 drums found to be leaking were overpacked. All process and water lines in the main building ("A") were drained to prevent freeze damage over winter. All utilities to the facility had been shut off. No attempt to use any electrical or natural gas facilities found on site were made due to serious concerns over their safety. All storage tanks were checked for leaks and to insure that their contents would remain intact over winter.

A total of 3,023 drums and 598 five-gallon pails were stored in Buildings "C" and "A annex". These two buildings were the most easily secured and a special radiant heating system was installed to prevent freeze damage to the drums. Concrete dikes were poured between incompatible groups to prevent chemical reactions in case of leaking drums.

Hazardous materials easily identified in this phase of the removal included: polychlorinated biphenyls (PCBs), calcium cyanide, and toluene diisocyanate. Also various acids, bases, and organic compounds were evident. Sixty-three drums of pure product were discovered at this time and were given to the Ulrich Chemical Company located in Fort Wayne, Indiana, on November 14, 1986. These drums of product were returned to Ulrich Chemical because of nonpayment by I.J. Recycling. Table 1 shows the number and contents of the drums.

TABLE 1

Product Given to Ulrich Chemical Company on November 14, 1986

Sodium Hydroxide	27 Drums
Sulfuric Acid	5 Drums
Aluminum	11 Drums
Sodium Sulfide	7 Drums
Potassium Permangante	13 Drums

The toluene diisocyanate in the form of forty-one five gallon pails, was disposed of in the summer of 1987. This was after Phase I was completed and before Phase II was initiated. This was done because of the unstable nature of this hazardous waste.

Twenty-four hour security was provided both during the initial stabilization efforts and after drum staging was completed. It was anticipated at the time of Phase I that the storage of the drums was only temporary.

Throughout the winter of 1986/87 the tens of thousands of pages of documents copied during Phase I were being compiled into a data base. This took much longer than originally anticipated and along with internal differences of opinion as to whether or not an enforcement action should proceed, the cleanup was still underway in the late summer of 1987. During eight months of "temporary storage," many more drums developed leaks and since the buildings used to house the drums were made as airtight as possible to survive the previous winter, a serious problem had developed with vapors. Also, the rented heating system was dismantled by the contractor and unless a cleanup was initiated immediately the drums would have to endure another winter, this time without heat.

The OSC in a memo to all parties brought the possible consequences of additional delays into perspective and a decision was made immediately to initiate the next phase of the removal.

1.5.2 Phase II

A Ceiling Increase was approved on August 3, 1987 resulting in authorization to spend up to an additional $1.565 million, in the event the owner/operators refused to comply with the second Unilateral Order. On October 19, 1987 the ERCS contractor was mobilized on site and Phase II was underway.

Immediately upon arriving on site, sampling of the 3,000 drums and 64 tanks began. One quart samples were taken of each drum and one gallon samples were taken from each tank. With winter approaching, it was imperative that disposal of the drums be achieved before weather conditions made this task impracticable.

A cost analysis was done to determine the difference between the conventional method of drum disposal, namely the bulking of compatible liquids, and a different disposal method involving the overpacking and shipping of compatible groups of drums. This was done relative to costs, time constraints, safety aspects, and various other factors. A copy of this report is available in Appendix X of this OSC Report.

In summary, the analysis indicated that the disposal costs for the two options to be the same without a large cost savings realized by the conventional bulking option. Therefore the OSC decided to dispose of the large volumes of drums by the other method, overpacking. This method involves simply placing the original 55 gallon drum into a larger 85 gallon drum and sending it to an approved disposal facility. Since the original containers were of very questionable structural integrity, this step was essential to safe disposal. Once overpacked, the drums were segregated into compatible groups and shipped, with 60 drums loaded per truck. Considerations other than costs that went into this decision included:

1) timing: The disposal facility (incinerator) guaranteed in writing to accept 1,500 drums per week. Using bulk shipments, only 10,000 gallons or a 200 drum equivalents per week could be accepted, thus extending the project by months. This reason, with winter approaching, was in itself sufficient to justify the chosen disposal method.

2) safety: Since the 3,000 drums contained considerable solid materials (sludges), the conventional disposal method, "bulking" would be a very labor intensive effort involving: cutting the drums open, emptying contents, solidifying, disposal of contents, crushing empty drums, and finally their disposal. These tasks involved safety risks eliminated by simply transporting the drums and letting the disposal facility handle these operations.

3) risk: PCBs were known to be present on site in an undetermined number of drums. If a mistake was to be made and a drum of this material was bulked into a tanker, an already expensive disposal would then be increased by 100 times. The over-packing method involved less risk.

With the method of disposal now determined to be overpacking and incineration it became a simple task to "haz cat" the 3,000 samples. An agreement was entered into with the Thermal-Kem incinerator located in Rock Hill, South Carolina (See Appendix Z). Highlights of this agreement included:

1) Free delivery of at least 1,500 clean overpack drums for reuse;
2) Credit for drums less than half full;
3) A guarantee to accept 1,500 drums of hazardous waste per week.
4) Approval to accept 60 drum composite samples (the capacity of one semi-trailer truck); this saved tens of thousands of dollars in analytical costs;
5) A guarantee to match the lowest analytical cost we could find on the market;
6) An on-site representative would assist in paperwork requirements;
7) A guarantee that its disposal rates would be competitive with other CERCLA facilities during the life of the project; and
8) Drums were sent by hazard class, but were priced based on "heel," (% solids in each drum) and chlorine content. Therefore each drum's price was known before it left site. No later pricing disagreements could occur.

Two additional bids were received from Trade Waste Incineration and from Liquid Waste Disposal (LWI). LWI out of Calvert City, Kentucky did not want Superfund waste, and Trade Waste had a 3 month waiting list for waste disposal. All of the above criteria for entering into this agreement is documented in the site log. As a result of Thermal Kem's competitive price, but more importantly because of their ability to be able to accept a large volume of drummed waste in a very short time frame and all of the other constituents of the agreement, they were awarded the disposal work. Within four weeks of having arrived on site all 3,000 plus drums had disposal arrangement assured.

Work proceeded rapidly with composite sampling, overpacking, and the loading and labeling of 60 drum truckloads of hazardous waste. During the week of December 14, 1987, 23 truckloads of drums (1,380) were loaded and sent off for disposal. Work was severely hampered by winds up to 50 mph, sleet, snow, and extreme cold particularly on December 15, when blizzard conditions existed. Very long work days were required to stage, prepare, and load this large quantity of drums under these weather conditions. All personnel performed admirably.

A problem arose at this time concerning delays in obtaining a waiver from EPA Headquarters of the $2 million ceiling on removal actions expenditures. On November 5, 1987 the OSC relayed to the Section Chief that there would not be sufficient funds to complete the drum removal, much less initiate the bulked liquid disposal, until the waiver was obtained. Without the

waiver the OSC estimated that site work would have to be discontinued the week of December 28 in order to preserve sufficient funds to continue site security until work resumed. On November 16, 1987 the OSC himself started preparing the waiver as a result of being told no one in the office was available to assist. This was done on site during off hours. On December 14, 1987 the OSC sent a Pollution Report (POLREP) in which everyone was alerted that work would cease the week of December 28 due to a lack of funds if the waiver was not granted. This had also been done in POLREPS 3, 4, 5, and 6. On December 30, 1987, I.J. Recycling was demobilized except for site security due to the lack of funds, even though Phase II of the removal was not completed.

The waiver was signed by Headquarters on March 17, 1988, and on March 22, the OSC again mobilized the ERCS contractor. Between March 22 and March 26, the last 670 drums were disposed of and Phase II was completed. Security at the site continued as U.S. EPA prepared for Phase III to continue the removal work requested by the second Unilateral Order.

1.5.3 Phase III

On June 22, 1987 the ERCS contractor was again mobilized to the I.J. Recycling site to resume removal activities, addressing approximately 400,000 gallons of hazardous material found in bulk storage. It was the OSC's intent to utilize fuel blending to dispose of as much of the higher priced waste as possible, primarily the highly chlorinated waste, by taking advantage of the energy value or BTU content found in much of the waste. The Systech Corporation of Zenia, Ohio, which supplies fuel to the La Farge Cement Company of Pauling, Ohio and their negotiated price of 20 cents per gallon plus free disposal analysis was the lowest price obtained. The OSC determined that they were in full compliance with RCRA, discussed the situation with the State of Ohio and determined there were no problems associated with this facility, and visited their cement plant about 40 miles away. There he found a clean, well run facility.

Systech's acceptance criteria were based on BTU and chlorine content and were as follows:

under 6,000 BTU per pound	=	unacceptable
6,000 BTU to 8,500 BTU with Chlorine to 6.5%	=	acceptable
greater then 8,500 BTU with Chlorine to 10%	=	acceptable
over 10% Chlorine	=	unacceptable

Also, PCBs of any level would be unacceptable.

The facility analyzed samples as provided to them by the OSC's ERCS contractor. Based on this data the facility provided the OSC with a blending schedule; X gallons from this tank mixed with Y gallons from

this tank for each load until all of the high BTU waste was used up.

Using this method, the first tank truck was loaded and sent to the cement kiln where it was sampled and analyzed prior to being unloaded. The first several loads were rejected due to low BTU's, in spite of following Systech's blending schedule to the letter.

The OSC determined the problem to be in the method by which the original set of samples were taken, particularly in the large 20,000 gallon to 30,000 gallon tanks. The samples were taken by mixing the contents of the tanks with an "air wand" using compressed air. Then a single representative sample was taken. Apparently the contents of the large tanks "phased out" before the sample was drawn, thus giving a false positive as far as BTU content (flammable liquids) was concerned. This meant that there was a lot more water, and a lot less flammable liquid in the bulk storage than previously determined.

The OSC instructed the ERCS contractor to resample the majority of the tanks by using a "Bacon Bomb" sampling device and taking a sample at a depth of every two feet. These new samples were then analyzed for BTU content and chlorine, with the OSC this time calculating the blending scheme.

The ERCS contractor would receive the blending schedule for that particular day at the start of the work shift. The tanker would be filled and allowed to sit over night, allowing any stratification to occur. The OSC would arrive on site the following day, and, in Level C protective gear, take a core sample of the loaded tank truck. The sample was then picked up by the chemist for the Systech for a "pre-approval" analysis. The results would be telephoned to the OSC by 9:00 a.m., and depending on the results the tanker would be either shipped, reblended slightly and then shipped, or "spiked" to add an extra BTU cushion. "Spiking" involved adding diesel fuel to enrich the mixture. This is permitted under RCRA if the original mixture contains at least 5,000 BTU's; less than that amount would be considered "Sham-Recycling". This revised procedure work so well that the remaining 15 tankers were all accepted at the disposal facility without further problems. Approximately 80,000 gallons of the worst hazardous waste found on site was disposed of in this manner for a fraction of the cost as compared to normal incineration.

Additional waste sent off site for disposal included:

1) 80,000 gallons of contaminated waste water sent to the City of Fort Wayne Publicly-Owned Treatment Works (POTW) for treatment.

2) 35,000 gallons of PCB contaminated waste oil sent to the Rollins Incinerator in Texas.

3) 10,000 gallons of hazardous waste sent to the Chemical Waste Management (CWM) incinerator in Chicago

4) 19,000 gallons of hazardous waste was sent to Environmental Waste Control, a treatment facility in Detroit

(See Table 2 for a complete disposal summary.)

TABLE 2

I. J. RECYCLING DISPOSAL SUMMARY

WASTE CATEGORY	QUANTITY	DATES REMOVED	TRANSPORTATION	DISPOSAL FACILITY
Flammable Liquid	60 drums	12/14/87	Metropolitan Env.	ThermalKem
NOS 1993	59 drums	12/14/87	Metropolitan Env.	ThermalKem
	59 drums	12/14/87	Metropolitan Env.	ThermalKem
	59 drums	12/14/87	Metropolitan Env.	ThermalKem
	59 drums	12/15/87	Metropolitan Env.	ThermalKem
	59 drums	12/15/87	Metropolitan Env.	ThermalKem
	58 drums	12/15/87	Metropolitan Env.	ThermalKem
	60 drums	12/15/87	Metropolitan Env.	ThermalKem
	60 drums	12/15/87	Metropolitan Env.	ThermalKem
	60 drums	12/16/87	Metropolitan Env.	ThermalKem
	60 drums	12/16/87	Metropolitan Env.	ThermalKem
	60 drums	12/16/87	Metropolitan Env.	ThermalKem
	60 drums	12/16/87	Metropolitan Env.	ThermalKem
	59 drums	12/16/87	Metropolitan Env.	ThermalKem
	59 drums	12/17/87	Metropolitan Env.	ThermalKem
	60 drums	12/18/87	Metropolitan Env.	ThermalKem
	59 drums	12/18/87	Metropolitan Env.	ThermalKem
	60 drums	12/28/87	Metropolitan Env.	ThermalKem
	58 drums	12/28/87	Metropolitan Env.	ThermalKem
	58 drums	12/28/87	Metropolitan Env.	ThermalKem
	60 drums	12/28/87	Metropolitan Env.	ThermalKem
	60 drums	12/28/87	Metropolitan Env.	ThermalKem
	58 drums	12/29/87	Metropolitan Env.	ThermalKem
	57 drums	12/29/87	Metropolitan Env.	ThermalKem
	58 drums	12/29/87	Metropolitan Env.	ThermalKem
(Epoxy hardeners)	02 drums	12/30/87	Metropolitan Env.	ThermalKem
(Epoxy resin)	19 drums	12/30/87	Metropolitan Env.	ThermalKem
(Epoxy enamel)	02 drums	12/30/87	Metropolitan Env.	ThermalKem
	52 drums	03/23/88	Metropolitan Env.	ThermalKem
	55 drums	03/24/88	Metropolitan Env.	ThermalKem
	58 drums	03/24/88	Metropolitan Env.	ThermalKem
	58 drums	03/24/88	Metropolitan Env.	ThermalKem
	39 drums	03/25/88	Metropolitan Env.	ThermalKem
	54 drums	03/25/88	Metropolitan Env.	ThermalKem
	58 drums	03/26/88	Metropolitan Env.	ThermalKem
	48 drums	03/26/88	Metropolitan Env.	ThermalKem
	29 drums	03/26/88	Metropolitan Env.	ThermalKem
	10 drums	05/13/88	Metropolitan Env.	ThermalKem

TABLE 2
(Continued)

WASTE CATEGORY	QUANTITY	DATES REMOVED	TRANSPORTATION	DISPOSAL FACILITY
Waste Corrosive Liquid NOS 1760	60 drums	12/18/87	Metropolitan Env.	ThermalKem
	58 drums	12/18/87	Metropolitan Env.	ThermalKem
	45 drums	12/18/87	Metropolitan Env.	ThermalKem
	59 drums	12/22/87	Metropolitan Env.	ThermalKem
	60 drums	12/22/87	Metropolitan Env.	CyanoKem
	3 drums	12/30/87	Metropolitan Env.	ThermalKem
	8 drums	03/24/88	Metropolitan Env.	Cyano Kem
	51 drums	03/25/88	Metropolitan Env.	ThermalKem
	19 drums	03/25/88	Metropolitan Env.	ThermalKem
	2 drums	03/26/88	Metropolitan Env.	ThermalKem
Waste Hazardous Liquid NOS ORM-E NA 9189	58 drums	12/17/87	Metropolitan Env.	ThermalKem
	60 drums	12/18/87	Metropolitan Env.	ThermalKem
	59 drums	12/21/87	Metropolitan Env.	ThermalKem
	59 drums	12/21/87	Metropolitan Env.	ThermalKem
	59 drums	12/21/87	Metropolitan Env.	ThermalKem
	1 drum	12/28/87	Metropolitan Env.	ThermalKem
	2 drums	12/30/87	Metropolitan Env.	ThermalKem
	59 drums	03/23/88	Metropolitan Env.	ThermalKem
	2 drums	03/26/88	Metropolitan Env.	ThermalKem
Flammable Solid NOS 1325	60 drums	12/22/87	Metropolitan Env.	ThermalKem
	60 drums	12/30/87	Metropolitan Env.	ThermalKem
	2 drums	12/30/87	Metropolitan Env.	ThermalKem
	58 drums	03/23/88	Metropolitan Env.	ThermalKem
	3 drums	03/26/88	Metropolitan Env.	ThermalKem
Waste Oxidizer NOS 1479	6 drums	12/30/87	Metropolitan Env.	ThermalKem
Waste Hazardous Solid NOS ORM-E 9189	2 drums	12/30/87	Metropolitan Env.	ThermalKem
	1 drum	03/26/88	Metropolitan Env.	ThermalKem
	1 drum	03/26/88	Metropolitan Env.	ThermalKem
Waste Poison B Solid NOS 2810	1 drum	12/30/87	Metropolitan Env.	ThermalKem
Waste Corrosive Solid NOS 1759	2 drums	13/30/87	Metropolitan Env.	ThermalKem
	9 drums	03/26/88	Metropolitan Env.	ThermalKem
	3 drums	03/26/88	Metropolitan Env.	ThermalKem

TABLE 2
(Continued)

WASTE CATEGORY	QUANTITY	DATES REMOVED	TRANSPORTATION	DISPOSAL FACILITY
Sulfuric Acid UN 1832	6 drums	12/23/87	Metropolitan Env.	CyanoKem
Hazardous Waste Solid NOS ORM-E 9189	3 drums	11-23-87	CWM	Adams Center
Hazardous Waste Solid Poison "B"	41- 5 gallon	6-1-87	Metropolitan Env.	ThemalKem
Nitric Acid 40% or Less Un 1760	2 drums	03/24/88	Metropolitan Env.	CyanoKem
Waste Chromic Acid solution UN 1755	3 drums	03/24/88	Metropolitan Env.	CyanoKem
Waste Potassium Permagante	1 drum	03/24/88	Metropolitan Env.	CyanoKem
Waste Cyanide Solid NOS UN 1935	2 drums	03/25/88	Metropolitan Env.	CyanoKem
Waste Flammable Liquid NOS UN 1993	5275 gallons	06-22-88	Metropolitan Env.	Systech
	5250 gallons	06-28-88	Metropolitan Env.	Systech
	5363 gallons	07-01-88	Metropolitan Env.	Systech
	4700 gallons	07-07-88	Metropolitan Env.	Systech
	5300 gallons	07-12-88	Metropolitan Env.	Systech
	5500 gallons	07-12-88	Metropolitan Env.	Systech
	5650 gallons	07-15-88	Metropolitan Env.	Systech
	5000 gallons	07-19-88	Metropolitan Env.	Systech
	5500 gallons	07-20-88	Metropolitan Env.	Systech
	5600 gallons	07-21-88	Metropolitan Env.	Systech
	5300 gallons	07-22-88	Metropolitan Env.	Systech
	5750 gallons	07-22-88	Metropolitan Env.	Systech
	5500 gallons	07-25-88	Metropolitan Env.	Systech
	5000 gallons	07-26-88	Metropolitan Env.	Systech
	5800 gallons	07-26-88	Metropolitan Env.	Systech
	5600 gallons	07-27-88	Metropolitan Env.	Systech
	5500 gallons	07-28-88	Metropolitan Env.	Systech
	5750 gallons	07-28-88	Metropolitan Env.	Systech

TABLE 2
(Continued)

WASTE CATEGORY	QUANTITY	DATES REMOVED	TRANSPORTATION	DISPOSAL FACILITY
Hazardous Waste Liquid	5500 gallons	07-14-88	Metropolitan Env.	EWC
NOS ORM-E NA 9189	5500 gallons	07-18-88	Metropolitan Env.	EWC
	5500 gallons	07-29-88	Metropolitan Env.	EWC
	2600 gallons	07-29-88	Metropolitan Env.	EWC
Non Hazardous Waste	2500 gallons	11-1-87	Metropolitan Env.	Chem Clover
Liquid	5000 gallons	3-29-88	Metropolitan Env.	Chem Clover
Waste Flammable Liquid	46340 pounds	09-26-88	CET	ROLLINS
NOS UN 1993	37800 pounds	09-26-88	CET	ROLLINS
with AB Contamination	45840 pounds	09-27-88	MATLACK	ROLLINS
	42760 pounds	09-27-88	MATLACK	ROLLINS
	42740 pounds	09-28-88	MATLACK	ROLLINS
	5000 gallons	09-28-88	MATLACK	ROLLINS
	14640 pounds	09-30-88	CET	ROLLINS
Hazardous Waste Liquid	5000 gallons	10-27-88	Metropolitan Env.	CWM
NOS ORM-E NA 9189	5000 gallons	10-28-88	Metropolitan Env.	CWM
F001, F002, F005				
Hazardous Waste Solid	30 cubic yards	3-24-88	CWM	Adams Center
Nos ORM-E 9189	20 cubic yards	8-25-88	CWM	Adams Center
	20 cubic yards	3-25-88	CWM	Adams Center
	20 cubic yards	3-25-88	CWM	Adams Center
	20 cubic yards	3-25-88	CWM	Adams Center
	20 cubic yards	3-24-88	CWM	Adams Center
	20 cubic yards	12-30-87	CWM	Adams Center
	30 cubic yards	12-28-87	CWM	Adams Center
	30 cubic yards	12-11-87	CWM	Adams Center
	30 cubic yards	12-11-87	CWM	Adams CEnter
	30 cubic yards	12-11-87	CWM	Adams Center
	30 cubic yards	12-04-87	CWM	Adams Center
	20 cubic yards	11-25-87	CWM	Adams Center

After the above disposal a considerable amount of unpumpable sludge remained on site. Because these sludges, and other remaining contamination on-site was considered a somewhat less serious threat by the OSC, the material was addressed in the Third Unilateral Order. The OSC believed that the material could remain on site for a short period of time while U.S. EPA processed enforcement action. Phase III ended on November 2, 1988, thus terminating EPA's direct involvement in disposal activities. Security was provided up until the PRPs assumed responsibility at the start of Phase IV.

1.5.4 Phase IV

While Phase III of the removal was underway, U.S. EPA's Office of Regional Counsel, in conjunction with the OSC, on July 27, 1988 issued a 106 Unilateral Order to past and present owner/operators and to over 300 generators and transporters considered to be PRPs identified from site records. On August 8, 1988 a PRP meeting was held in Fort Wayne, Indiana at which time past activities at the site were explained, remaining tasks were detailed, and the PRPs were urged to organize and conduct the final phase of the removal. As a result of this meeting, the Clinton Street Group was formed, initially containing about 60 generators.

The technical committee of the Group asked the OSC to give a site tour to five consulting firms interested in representing them as the oversight contractor during the forthcoming final phase of the action. They selected a firm named "de maximus," who in turn selected the actual cleanup contractor (after another 5 firm site tour), Perland Environmental.

A comprehensive work plan was submitted to the OSC by Perland Environmental in late September 1988 as per the Unilateral Order, and after considerable modifications it was accepted by the U.S. EPA on November 23, 1988. The site was given over to de maximus at that time.

Major Components of the Work Plan included:

1) Removal and disposal of all remaining hazardous waste (sludges);
2) Decontamination of all tanks found on site, along with their dismantling and scrapping;
3) Sampling and decontamination of all buildings;
4) Sampling and removal of contaminated soil and creek sediments;
5) Draining and disposal of liquids from piping and sewers;
6) Removal of underground tanks;
7) A ground water sampling program; and
8) Provision of site security.

The Phase IV cleanup proceeded without incident with the cleanup contractor doing an adequate job. However, it is the opinion of this OSC that the cleanup took somewhat longer than expected and may have cost the Group too much (believed to be in excess of $5.5 million). The OSC was involved in this phase on a once-a-week basis during which a site tour and a meeting with all parties was conducted. Many suggestions for cost savings were offered by

the OSC to both the oversight contractor and the cleanup contractor, some of which went unheeded. The contractors did, however, comply with all instructions concerning substantive compliance with the Unilateral Order. Perland Environmental, a new firm (I.J. Recycling was its first job) made some mistakes, in the opinion of this OSC, that adversely impacted project costs and its length. The impacts were not, however, so unreasonable as to affect compliance with the Order and the work plan. These are documented in various detail in the OSC Report Appendices (Appendix BB).

In addition to the above tasks the Group also removed all asbestos from the facility and sampled and removed a 148 foot smoke stack. These tasks were done to reduce potential dangers to the workers on site. A substantial amount of contaminated soil was identified and removed in the area of the former tank farm. Ground water was found to be unimpacted throughout the site. Work was completed by midsummer and after a final site walk-through, the removal was declared complete on August 3, 1989. At that point, I. Jones refused to take possession of the keys to the site and the keys were turned over to the City of Fort Wayne.

1.6 Community Relations

A community relations plan was prepared by U.S. EPA's Office of Public Affairs. Their help was also sought by the OSC for a meeting conducted early in the removal.

Other than that mentioned above, all public affairs were successfully handled by the OSC as the Agency's spokesman. Numerous interviews involving all media (various T.V. stations, radio, and newspapers) were given by the OSC in every case. An excellent relationship also existed between the OSC and all levels of city and county government.

1.7. Cost Summary

The first three phases of the removal action were funded by the U.S. EPA. MAECORP was the mini-Emergency Response Cleanup Services (ERCS) contractor for the removal (Contract #68-01-7360, Delivery Order #7360-05-001). Total estimated ERCS costs by service category are shown in Table 3. Additional costs were incurred by the TAT (TDDs #5-8610-109, 5-8612-86, 5-8701-32, 5-8702-19 [A-D], 5-8810-34, and 5-8811-12) and the U.S. EPA. A total estimated cost summary is shown in Table 4.

Any indication of specific costs incurred at the site is only an approximation, subject to audit and final definitization by the U.S. EPA. The OSC Report is not meant to be a final reconciliation of the costs associated with a particular site.

TABLE 3

SUMMARY OF ERCS CONTRACTOR EXPENDITURES BY SERVICE
AT THE I. J. RECYCLING SITE
Fort Wayne, Indiana

SERVICE CATEGORY	AMOUNT
PERSONNEL	$ 284,553.23
TRAVEL AND SUBSISTENCE	$ 34,033.40
EQUIPMENT	$ 105,556.01
MATERIALS	$ 100,778.12
SUBCONTRACTOR	$ 554,418.03
TRANSPORTATION	$ 145,699.34
DISPOSAL	$1,290,567.92
ANALYTICAL	$ 62,317.99
TOTAL	$2,578,924.04

SOURCE: Final Invoice #36, MAECORP, Inc. Contract #68-01-7360, D.O. #7360-05-001 (Appendix K).

Any indication of specific costs incurred at the site is only an approximation, subject to audit and final definitization by the U.S. EPA. The OSC Report is not meant to be a final reconciliation of the costs associated with a particular site.

TABLE 4

SUMMARY OF TOTAL ESTIMATED CLEANUP COSTS AT THE I.J. RECYCLING SITE, FORT WAYNE, INDIANA

ORGANIZATION		AMOUNT
ERCS Contractor (1)		$2,578,924.04
U.S. EPA - EERB (2)	Direct	$ 57,030.52
	Indirect	$ 113,894.00
TAT - Region V (3)		$ 284,080.43
ESTIMATED TOTAL		$3,033,928.99

1) Costs are from Final Invoice #36, MAECORP, Inc., Contract #68-01-7360, D.O. #7360-05-001 (Appendix K).

2) U.S. EPA - EERB costs are from U.S. EPA, Superfund Accounting Section, Itemized Cost Summary 4/02/91 (Appendix HH).

3) TAT costs are from TAT records (TDDs# 5-8610-109, 5-8612-86, 5-8701-32), TAT Financial Management Report to DPO Heaton 9/90 (TDDs# 5-8702-19, A-D; 5-8810-34) and TAT Financial Management Report 12/90 (TDD #5-8811-12)(See Appendix C for Summary).

Any indication of specific costs incurred at the site is only an approximation, subject to audit and final definitization by the U.S. EPA. The OSC Report is not meant to be a final reconciliation of the costs associated with a particular site.

2.0 Effectiveness of the Removal Action

2.1 Potentially Responsible Parties

The PRPs refused to perform any of the work in the first two Unilateral Orders. (This corresponds to the first three phases of EPA's removal action). However, in Phase IV the generators organized and created a technical committee. Through that committee and the consulting firm (de maximus) a work plan was organized and cleanup actions for Phase IV were initiated and carried out to an effective completion. Excellent working relationships were maintained by the OSC with all parties during the action.

2.2 State and Local Efforts

The State of Indiana was notably absent from participating in any of the phases of work, in spite of invitations from the OSC. The state was given prior notice of each of the Unilateral Orders. The facility was an active RCRA facility when the initial site assessment was done. Local city and county personnel were extremely helpful in providing assistance to the OSC. The local Fire Department in particular should be commended for its assistance.

2.3 Other Federal Agencies

The U.S. Fish and Wildlife Service was contacted and gave its release regarding natural resource damages that could have developed from facility discharges into the St. Joseph River via a nearby creek. This was done for the de minimis settlement in Phase IV.

3.0 Problems Encountered

As in any complex, large-scale removal action, problems arose on a daily basis, were solved, and work continued. However, particular items are worthy of mentioning in this section of the report.

1) The problem encountered by the OSC in undertaking the first mini-ERCS Delivery Order (001) deserves some mention. The OSC was sent into the field with no copy of contract and with no briefing in any aspect of it. When arriving on site, he found that the contractor knew even less about it. As problems arose it was almost impossible to obtain any clarification from Contracts, in U.S. EPA Headquarters. As a result, the OSC made a number of minor contract interpretations, one of which was later (four years later) overturned.

2) Another item which caused considerable aggravation and had some cost impact was the largely unavoidable delay in obtaining the $2 million wavier from EPA Headquarters. As documented in numerous POLREPS, the OSC was early on aware of a lack of funds to finish a critical portion

of the removal action. When the OSC became aware that help in preparing the necessary documentation would not be forthcoming from the office, the task fell on his shoulders. As documented in the text of the report and in the official site log, this request could not be processed in time and therefore created an interruption of work during the middle of Phase II of the removal action.

3) A problem was encountered in physically obtaining representative samples in the large (20,000 to 30,000 gallon) storage tanks. Mixing with air was not effective as the various vents contained in the tanks "phased out" before sampling could occur. Up to 6 or 7 discernable layers could be observed in some of the tanks once a representative sample was taken and observed in a clean jar.

4) The entire fuel blending process conducted by the OSC during Phase III turned out initially to be a problem. This was due to the above sample problem and by the contractor's lack of equipment (operable pumps and various-sized holding tanks).

4.0 OSC Recommendations

1) Provide all OSCs with copies of the contracts they are asked to uphold and provide training in their interpretation. This should be particularly done when a new contract comes into effect. This problem has been somewhat lessened by our Contracts people now being available in Chicago rather than in U.S. EPA Headquarters.

2) In certain situations, the OSC should be able to expedite the $2 million exemption. This should be particularly the case where the threat and the need for additional funds are known way in advance. Also, logistic support (typing, etc.) should be available to the OSC on a priority basis when this need arises. The EERB has added a Support Section since the waiver problem occurred in 1987 in order to help provide that type of logistical support.

3) Sampling large volume tanks is an operation that should be thoroughly investigated before the same mistakes I made are repeated. However, once the appropriate samples are taken in the correct manner, the fuel blending option is one that can save a significant amount of money. Before Phase III was initiated, a representative from a major disposal facility offered to dispose of all bulked waste on site for $4 per gallon. By utilizing fuel blending, the OSC dropped that cost down to approximately 30 cents per gallon for the blending phase. Also lesser amounts were realized by utilizing the local POTW and by negotiating rates with other disposal firms. Also by utilizing fuel blending, the variable energy content of the waste is effectively utilized. A bomb calorimeter on site (measures BTU content) operated by a competent chemist would have made the fuel blending operation much easier.

4) In Phase I of the removal only enough funds were available to secure the site. To do this, the drums had to opened and some basic chemistry applied. The drums were then secured and stored for the winter. Then in Phase II of the removal the drums were again opened and sampled, thus handling them a second time. In the future, this multiple opening of drums during the same removal action should be avoided where possible.